

### **Abstract of the Disclosure**

South Asia's unique musical instruments and raag systems have provided many rich treasures to Western music. This invention melds Western-music technologies with the innovations, timbre, playing techniques, and performance environments of South Asian musical instruments and traditions. Sitar, Dilrubas, and Esraj may be provided with multi-channel signal processing and pitch change for individual strings, additional playing strings, keyboards, strumpads, percussion interfaces, controls for timbre and stage environment control, synthesizer interfaces, pickups for brass strings, resonant and twang processors, and spatial sound distribution. Bows may include sensors measuring the bow's physical activity or direct finger manipulation. Tabla and baya may be replaced with touch pads capable of recognizing relevant hand contact modalities and positions. Touch pads may be comprised of pressure sensor arrays that recognize traditional bols and permit other generalizations and deeper levels of sonic control. Sounds may be synthesized or processed from acoustic instrument sample playback.